

of the cell-theory was purely anatomical; and that the attempts which had been made to base upon it some physiological explanation of the facts of life,—by the assumption of cell-force, metabolic force, &c. &c.,—were no more philosophical than the old notions of actions of the vessels, &c., of which physiologists have lately taken so much pains to get rid.

ZOOLOGICAL SOCIETY.

March 25, 1851.—William Yarrell, Esq., Vice-President, in the Chair.

DESCRIPTIONS OF NEW SPECIES OF *NASSA*, IN THE COLLECTION OF HUGH CUMING, ESQ. BY ARTHUR ADAMS, F.L.S. ETC.

[Continued from p. 325.]

Subgenus *ALECTRION*, Montfort.

Shell bucciniform; spire elevated; inner lip with the callus moderately developed; outer lip dentate, or serrate at the margin.

A. Shell papillose; inner lip spread.

1. *NASSA SEMINODOSA*, A. Adams. *N. testâ ovato-conicâ, acuminatâ, lævi, nitidâ, fulvo-fuscescente; suturâ tuberculis moniliformibus ornatâ; longitudinaliter plicatâ, plicis supernè sub-nodulosis; anfractu ultimo anticè transversim sulcato, labio lævi, cum callo tenui expanso oblecto, labro anticè dentato intus lirato.*

Hab. Island of Annaa, South Seas, on the reefs (*H. C.*). Mus. Cuming.

B. Shell smooth, polished.

1. *NASSA MUCRONATA*, A. Adams. *N. testâ ovato-conicâ, sublævi, nitidâ, longitudinaliter plicatâ, lutescenti fusco variegatâ; anfractibus rotundatis, ultimo gibboso; spirâ acutâ, mucronatâ; labio lævi; labro intus lirato.*

Hab. Dumaguete, isle of Negros, 11 fathoms, black sand (*H. C.*). Mus. Cuming.

2. *NASSA OBLIQUATA*, A. Adams. *N. testâ ovato-conicâ, obliquâ, lævissimâ, nitidâ; lineis fuscis transversis, fasciâ pallidâ ornatâ, cinerescente, albo variegatâ; labio lævi, simplici; labro intus lirato.*

Hab. Cagayan, province of Misamis, island of Mindanao, sandy mud, 25 fathoms (*H. C.*). Mus. Cuming.

3. *NASSA PUNCTATA*, A. Adams. *N. testâ ovato-conicâ; spirâ acuminatâ, lævi, cinerâ, albido punctatâ, lineolis fuscis transversis ornatâ; labio callo tenui expanso tecto; columellâ rugosâ; labro extus incrassato, intus lirato.*

Hab. Puerto Galero, province of Albay, isle of Luzon, coarse sand, 6 fathoms (*H. C.*). Mus. Cuming.

4. *NASSA LENTIGINOSA*, A. Adams. *N. testâ ovato-conicâ;*

spirâ acuminatâ, lævi, nitidâ, lutescente aut cinerescente, lineis undulatis confertis pictâ, lineolis fuscis transversis ornatâ; labio cum callo tenui tecto; columellâ anticè rugosâ; labro margine incrassato, intus valde lirato.

Hab. Masbate, 7 fathoms, sandy mud (H. C.). Mus. Cuming.

5. *NASSA LUCTUOSA*, A. Adams. *N. testâ ovatâ, elongatâ, acuminatâ, subnitidâ, transversim sulcatâ, nigricante nonnunquam fasciis albo-articulatis ornatâ; anfractibus planulatis; labio callo nitido obiecto; columellâ anticè biphicatâ et tuberculis tribus instructâ; labro extus incrassato, intus valde lirato.*

Hab. Cagayan, province of Misamis, isle of Mindanao, under stones on the reefs (H. C.). Mus. Cuming.

6. *NASSA STOLIDA*, A. Adams. *N. testâ ovato-conicâ; spirâ acuminatâ, solidâ, cinereâ, fusco maculatâ, longitudinaliter plicatâ; aperturâ anticè effusâ; labio reflexo, lævi, valde calloso; labro intus lævi, fusco alboque fasciato.*

Hab. —? Mus. Cuming.

7. *NASSA DISTORTA*, A. Adams. *N. testâ ovato-conicâ, nitidâ; spirâ acuminatâ, distortâ, pallidâ, cinereo variegatâ, lineis fuscis transversis ornatâ; aperturâ anticè valde effusâ; labio lævi, anticè biphicato; labro anticè producto, intus lirato.*

Hab. —? Mus. Cuming.

8. *NASSA MARMOREA*, A. Adams. *N. testâ ovato-conicâ, lævi, nitidâ; spirâ subacuminatâ, albidâ, fusco marmoratâ, fasciis duabus pallidis ornatâ; anfractibus planiusculis; labio corrugato; labro extus varicoso, intus lirato.*

Hab. Cagayan, Mindanao, 25 fathoms, sandy mud (H. C.). Mus. Cuming.

9. *NASSA SPIRATA*, A. Adams. *N. testâ ovato-conicâ, acuminatâ, lævi, nitidâ, albidâ, luteo-fusco nebulosâ; anfractibus convexiusculis, prope suturas angulatis; labio lævi; labro intus lirato, extus incrassato, anticè margine simplici non dentato.*

Hab. Swan River. Mus. Cuming.

C. Shell smooth or ribbed. Inner lip defined.

1. *NASSA RUFOCINCTA*, A. Adams. *N. testâ ovato-conicâ, subturritâ, albidâ, fasciâ transversâ rufâ ornatâ, longitudinaliter plicatâ, transversim striatâ; anfractibus subrotundatis; labio callo albo circumscripto tecto; labro extus marginato, intus sulcato.*

Hab. Honduras (Dyson). Mus. Cuming.

2. *NASSA MICANS*, A. Adams. *N. testâ ovato-fusififormi, albidâ, lævi, nitidissimâ; anfractibus convexiusculis supremis costellatis; labio callo tenui tecto; labro anticè crenulato, intus lirato.*

Hab. Cagayan, Misamis, Mindanao, 25 fathoms, sandy mud (H. C.). Mus. Cuming.

3. *NASSA PALLIDULA*, A. Adams. *N. testâ ovatâ, subacuminatâ*

pallidâ, lævi, anfractu ultimo anticè transversim sulcato; suturâ canaliculatâ; labio cum callo circumscripto tecto; columellâ simplici; labro extus marginato, intus lirato.

Hab. Malacca, coarse sand, 10 fathoms (*H. C.*).

4. *NASSA COMPTA*, A. Adams. *N. testâ ovato-conicâ, subturritâ, lævi, nitidâ, rufescente pallidè variegatâ; anfractibus convexiusculis, supremis costellatis; labio cum callo circumscripto tecto; columellâ anticè corrugatâ; labro margine incrassato, albo, sub-reflexo.*

Hab. Cape St. Antonio, Africa.

5. *NASSA SUCCINCTA*, A. Adams. *N. testâ ovatâ, subturritâ, lævi, cinerescente; fasciâ pallidâ, cinctâ, anfractibus planulatis, supremis costellatis; suturâ subcanaliculatâ; labio cum callo incrassato circumscripto tecto; columellâ dentato-rugosâ; labro posticè inflexo, anticè valde sinuato et dentato, extus limbato, intus lirato.*

Hab. Masbate. Mus. Cuming.

6. *NASSA ZONALIS*, A. Adams. *N. testâ ovato-acuminatâ, lævi, nitidâ, longitudinaliter striatâ; anfractu ultimo transversim sulcato; lutescente, fasciis tribus transversis rufo-fuscis cinctâ; labio cum callo tenui expanso tecto; columellâ lævi; labro extus incrassato, intus lirato.*

Hab. Isle of Ticao, on the reefs (*H. C.*). Mus. Cuming.

7. *NASSA SERTULA*, A. Adams. *N. testâ ovatâ, acuminatâ, lævi, nitidâ, fulvâ, albo nebulosâ; anfractibus convexiusculis, supremis costellatis; labio cum callo circumscripto tecto; columellâ transversim corrugatâ; labro extus incrassato, intus lirato.*

Hab. Masbate, on the reefs (*H. C.*). Mus. Cuming.

8. *NASSA SEMIPLICATA*, A. Adams. *N. testâ ovato-conicâ, cinerâ, fasciâ pallidâ transversâ ornatâ, nitidâ, sublævi, longitudinaliter plicatâ, plicis in anfractu ultimo sæpè evanidis, interstitiis transversim striatis; labio callo circumscripto; columellâ transversim corrugato-plicatâ; labro extus albo marginato, intus lirato.*

Hab. Chusan (*Benson*). Mus. Cuming.

9. *NASSA CINNAMOMEA*, A. Adams. *N. testâ ovato-acuminatâ, cinnamomâ, lævi, nitidâ, lævigatâ, semipellucidâ, anfractibus convexis; labio simplici; labro extus marginato, intus sublirato.*

Hab. Dumaguete, isle of Negros, under stones, low water (*H. C.*). Mus. Cuming.

10. *NASSA BADIA*, A. Adams. *N. testâ ovato-acuminatâ, lævi, nitidâ, castanâ; anfractibus planis, supremis longitudinaliter plicatis, anfractu ultimo transversim striato; labio simplici viâ calloso; labro extus marginato, intus plicato.*

Hab. Sinaat, province of North Ilocos, island of Luzon, on the reefs (*H. C.*). Mus. Cuming.

11. *NASSA MITRALIS*, A. Adams. *N. testâ ovato-conicâ, acuminatâ, fuscâ, sublævi, longitudinaliter semiplicatâ; anfractibus*

planiusculis, ultimo anticè transversim sulcato; labio subcorrugato; labro extus marginato, intus valde lirato.

Hab. Isinimalan, isle of Negros, on the mud-banks (*H. C.*). Mus. Cuming.

12. *NASSA SEROTINA*, A. Adams. *N. testá turritá, acuminatá, serotind, anfractu ultimo anticè cingulis duabus elevatis articulatis ornato; transversim substriatá, longitudinaliter plicatá, plicis rotundis subdistantibus; aperturá albá; columellá lævi, subcallosá; labro extus incrassato, intus lirato.*

Hab. Australia.

13. *NASSA PULCHELLA*, A. Adams. *N. testá turritá, acuminatá, nitidá, albidá, luteo variegatá, fasciá fuscá transversá ornatá; longitudinaliter plicatá, plicis subdistantibus rotundatis tuberculis albis transversis instructis; labio calloso nitido; labro extus marginato, intus lirato.*

Hab. Cape of Good Hope. Mus. Cuming.

14. *NASSA TERETIUSCULA*, A. Adams. *N. testá subturritá, acuminatá, lutescente ut plumbeá, fasciá angustá fuscá transversá ornatá; lævi, nitidá, longitudinaliter valde plicatá; labio cum callo mediocri tecto; columellá anticè tortuosá, plicatá; labro extus limbato, intus lirato.*

Hab. Eastern Seas. Mus. Cuming.

15. *NASSA VARICIFERA*, A. Adams. *N. testá turritá; spirá acuminatá, pallidá, fasciis fuscis duabus transversis ornatá; anfractibus subplanulatis, varicibus albis, spiruliter instructis; suturá canaliculatá; columellá anticè plicis tribus transversis; labro extus marginato, posticè angulato, intus valde lirato.*

Hab. Eastern Seas.

16. *NASSA SCALARIS*, A. Adams. *N. testá ovato-conicá, subturritá, pallidá, rufo-fusco fasciatá; longitudinaliter costatá, transversim liratá; anfractibus rotundatis, tuberculis moniliformibus apud suturan; suturá subcanaliculatá; labio cum callo subexpanso tenui tecto; columellá corrugatá, anticè biplicatá; labro anticè crenulato, intus lirato.*

Hab. Island of Corrigidor, 7 fathoms, coarse sand (*H. C.*). Mus. Cuming.

17. *NASSA PLANOCOSTATA*, A. Adams. *N. testá ovato-conicá, cinerescente, fasciá rufo-fuscá transversim cinctá; costellis planis confertis longitudinalibus, interstitiis concinnè clathratis ornatá; labio cum callo circumscripto tecto; columellá transversim plicatodentatá; labio anticè denticulato, intus valde lirato.*

Hab. Payta, Peru, under stones, low water (*H. C.*). Mus. Cuming.

D. Shell scalariform, cancellated.

1. *NASSA ANGULIFERA*, A. Adams. *N. testá ovato-conicá, subturritá, pallidè fulvá; fasciá fuscá cinctá, transversim sulcatá, longitudinaliter plicatá, plicis distantibus, posticè apud suturas*

- angulatis*; labio cum callo albo nitido tecto; labro margine sub-reflexo, intus crenulato.
- Hab.* Galapagos Islands, 10 fathoms (*H. C.*). Mus. Cuming.
2. *NASSA NODICINCTA*, A. Adams. *N. testá ovato-turritá; spirá acuminatá, pallidá, lineis rufis transversis cinctá, transversim sulcatá; plicis distantibus longitudinalibus, apud suturas noduliferis ornatá; labio cum callo albo lævi nitido tecto; labro extus varicoso, intus lirato.*
- Hab.* Galapagos Islands, 7 fathoms (*H. C.*). Mus. Cuming.
3. *NASSA SANCTÆ HELENÆ*, A. Adams. *N. testá ovato-conicá, subturritá; spirá productá; anfractibus rotundatis, albídá rufo-variegatá, longitudinaliter costatá, costis distantibus subnodosis; anfractu ultimo anticè transversim sulcato; labio lævi, calloso; columellá anticè uniplicatá; labro intus lirato.*
- Hab.* St. Helena, sandy mud, 20 fathoms (*H. C.*). Mus. Cuming.
4. *NASSA CINCTELLA*, A. Adams. *N. testá ovato-conicá, albídá, lineis fuscis transversis cinctá, longitudinaliter valde plicatá, plicis distantibus, liris transversis albis, interstitiis fuscis ornatá; labio corrugato, vix calloso; labro extus varicoso, intus valde lirato.*
- Hab.* St. Helena, 20 fathoms, sandy mud.
5. *NASSA CORRUGATA*, A. Adams. *N. testá elongatá, subturritá, fulvescente, rufo nebulosá; transversim liratá, longitudinaliter plicatá; plicis nodulosis; anfractibus convexiusculis; labio simplici, non calloso; labro intus lirato, margine crenulato; columellá tortuosá, anticè productá.*
- Hab.* Eastern Seas. Mus. Cuming.
6. *NASSA TURRITA*, A. Adams. *N. testá elongatá, subturritá, pallidè fulvá; anfractibus rotundatis; suturá subcanaliculatá, longitudinaliter plicatá, transversim liratá, liris subnodulosis; labio cum callo tenui tecto; columellá anticè abruptè truncatá; labro intus valde lirato.*
- Hab.* —? Mus. Cuming.
7. *NASSA JAPONICA*, A. Adams. *N. testá turritá, pallidè fulvá, fasciá rufo-fuscá cinctá; longitudinaliter plicatá, cingulis transversis ad plicas nodulosis ornatá, interstitiis longitudinaliter striatis; labio subrugoso; columellá anticè productá; labro intus lirato.*
- Hab.* Japan (*Dr. Siebold*). Mus. Cuming.
8. *NASSA DENTICULATA*, A. Adams. *N. testá ovato-conicá, fulvescente rufo maculosá; anfractibus convexiusculis, longitudinaliter plicatá, transversim liratá, liris planis, interstitiis tenuissimè longitudinaliter striatis; labio cum callo albo nitido tecto, anticè producto, libero; labro intus lirato, margine denticulato.*
- Hab.* —? Mus. Cuming.
9. *NASSA NIVEA*, A. Adams. *N. testá ovato-conicá, candidá, nitidá; anfractibus planulatis plicis longitudinalibus distantibus,*

transversim sulcatá ; labio cum callo mediocri tecto, margine acuto producto ; labro margine subcrenulato, intus lirato ; columellá anticè triplicatá.

Hab. Batangas, island of Luzon, 21 fathoms, coarse sand (*H. C.*).
Mus. Cuming.

10. *NASSA Plicatella*, A. Adams. *N. testá ovato-conicá, fulvá ; labro albido ; anfractibus subrotundatis longitudinaliter plicatis transversim liratis, liris ad plicas nodulosis ; labio cum callo mediocri ; columellá anticè uniplicatá ; labro margine acuto, intus lirato.*

Hab. Wallwich Bay, Africa. Mus. Cuming.

Subgenus *TRITONELLA*, Adams ; *Tritonia*, Fleming.

Shell turrited, cancellated ; aperture rounded, not produced into an anterior canal ; outer lip not dentate, with a marginal varix.

1. *NASSA FUSCATA*, A. Adams. *N. testá ovatá, spirá acuminatá, anfractibus convexiusculis, fuscá, longitudinaliter plicatá, transversim liratá, plicis ad liras tuberculatis, interstitiis transversim striatis ; columellá rugosá ; labro posticè sinuato, intus dentato-lirato.*

Hab. — ? Mus. Cuming.

Subgenus *TRITIA*, Risso.

Shell turrited ; inner lip spreading ; outer lip not dentate, without a marginal varix.

1. *NASSA DEALBATA*, A. Adams. *N. testá ovato-conicá, acuminatá, subturritá, albidá, fasciá pallidá luteá cinctá ; anfractibus planulatis longitudinaliter plicatis, plicis nodulosis, transversim liratis ; columellá tuberculato-dentatá ; labro extus incrassato, intus dentato-lirato.*

Hab. Dumaguete, isle of Negros, 11 fathoms, black coarse sand (*H. C.*). Mus. Cuming.

2. *NASSA COSTELLIFERA*, A. Adams. *N. testá ovato-conicá, acuminatá, albidá, fusco-variegatá, fasciá fuscá in ultimo anfractu longitudinaliter costulatá, transversim liratá ; costellis nodulosis ; anfractibus planiusculis ; labio transversim corrugato-plicato ; labro intus lirato.*

Hab. Curimas. Mus. Cuming.

3. *NASSA TRIFASCIATA*, A. Adams. *N. testá ovato-acuminatá ; spirá acutá, productá, pallidè cærulescente aut albidá, fasciis tribus transversis rufis ornatá, longitudinaliter subplicatá, transversim sulcatá ; columellá levi, callo cum nitido expanso tecto ; labro margine acuto, intus lirato.*

Hab. Vigo Bay (*M. Andrew*). Mus. Cuming.

Subgenus *DESMOULEA*, Gray.

Shell subglobose, covered with a downy epidermis ; spire short ; apex papillary.

1. DESMOULEA PINGUIS, A. Adams. *D. testá ovatá, abbreviatá, ventricosá; spirá brevi, apicè mucronato; anfractibus gibbosis, lutescente albo variegatá; epidermide fusco villosa tectá, transversim striatá; labio calloso; columellá levi, anticè tuberculo unico, uniplicatá; labro intus lirato.*

Hab. Senegal. Mus. Cuming.

2. DESMOULEA PYRAMIDALIS, A. Adams. *D. testá ovato-conicá; spirá acuminatá, apice obtuso, violascente, longitudinaliter evanidè plicatá, transversim sulcatá; labio fusco subcalloso simplici; labro extus marginato, intus lirato.*

Hab. —? Mus. Cuming.

3. DESMOULEA CRASSA, A. Adams. *D. testá ovato-conicá, abbreviatá, solidá, levi; spirá obtusá, apice violaceo; anfractibus supernè gibbosis, rufescente albo variegatá, transversim sulcatá; labio cum callo crasso tecto; columellá transversim liratá, anticè uniplicatá, tuberculis duobus instructá; labro intus lirato.*

Hab. Japan. Mus. Cuming.

4. DESMOULEA JAPONICA, A. Adams. *D. testá ovatá, levi, nitidá, anticè transversim sulcatá, fulvescente, maculis lineisque transversis fuscis ornatá, albo variegatá; labio anticè calloso; columellá anticè tuberculis tribus instructá; labro extus incrassato, intus lirato.*

Hab. Japan (Siebold). Mus. Cuming.

Subgenus ACICULINA, A. Adams.

Shell turritid; inner lip with a circumscribed callus free anteriorly; outer lip with the margin thickened and flexuose.

1. ACICULINA COSTATA, A. Adams. *A. testá turritá, acuminatá, serotiná, nitidá, longitudinaliter costatá, transversim sulcatá; labio calloso, anticè fusco, producto; labri margine subrecto, intus lirato.*

Hab. —? Mus. Cuming.

2. ACICULINA STRIATA, A. Adams. *A. testá ovato-turritá, fuscá, fasciá pallidá transversá ornatá, anfractu penultimo gibboso ad suturas longitudinaliter plicatá, transversim valde striatá; labio calloso; labri margine vix incrassato, intus lirato.*

Hab. San Nicholas, isle of Zebu, 5 fathoms, sandy mud (H. C.). Mus. Cuming.

3. ACICULINA LABIATA, A. Adams. *A. testá turritá, acuminatá, nitidá, cinerescente, fasciá pallidá transversá ornatá, longitudinaliter costatá, costis ad suturam nodulosas, transversim sulcatá; labio fusco, calloso; labro margine incrassato, fusco, valde flexuoso, posticè sinuato, in medio producto.*

Hab. Malacca, coarse sand, 10 fathoms (H. C.). Mus. Cuming.

4. ACICULINA GLABRATA, A. Adams. *A. testá turritá, acuminatá,*

*laevi, nitida, longitudinaliter substriata, albidá, fasciis cinerescen-
tibus maculisque fuscis ornatá; labio calloso, anticè uniplicato;
labri margine incrassato, flexuoso, in medio producto.*

Hab. Philippines. Mus. Cuming.

5. *ACICULINA MACULATA*, A. Adams. *A. testá turritá, laevi,
nitida, alba, maculis luteo-fuscis longitudinalibus ornatá, trans-
versim sulcatá, sulcis distantibus; labio calloso, anticè producto;
columellá uniplicatá; labro extus marginato, intus lirato.*

Hab. Banang, Sargassinan, isle of Luzon, muddy sand, low water
(H. C.). Mus. Cuming.

6. *ACICULINA VITTATA*, A. Adams. *A. testá turritá, albidá, ni-
tida, fasciá transversá fuscá interruptá ornatá, transversim sul-
catá, longitudinaliter costatá; labio calloso; columellá bituber-
culatá, et anticè valde uniplicatá; labro extus varicoso, intus den-
tato-lirato.*

Hab. Ticao, coral sand, 6 fathoms (H. C.). Mus. Cuming.

MISCELLANEOUS.

On the Nervures of Leaves and their Distribution.

By L. VON BUCH.

FOSSIL leaves can frequently only be studied in their form and neuration. The nervures have unfortunately been little noticed by botanists, as though they were of but little importance, and the laws which rule their numerous modifications have not yet been traced. It is to be regretted that, even in the best figures, the characters of the neuration of the leaves are badly represented, and sometimes even in contradiction to the laws of nature. This is the case not only with fossil, but also with living plants. I wish to draw the attention of botanists to this subject, and shall confine myself to some leaves of dicotyledonous plants which are readily procured for examination.

A leaf is an organ essential to the life of the plant. In its development it relinquishes the cylindrical form of the branches and twigs, and extends itself into a flat plate, one surface of which is turned towards the earth and the other to the sky. On the lower surface are the stomata which absorb carbonic acid from the air, decompose it, and set oxygen at liberty. Now this part of the leaf could not be developed, still less could it maintain itself in this extended condition, without the strong network of nervures which are found beneath the leaf. *The number of these nervures is fixed for each leaf; even for each species.* If the leaf grows extraordinarily, new nervures do not appear on this large surface; the number of nervures was fixed even in the closed bud. The irregularities in number in the bud are confined within such narrow limits, that they are of no importance in